

Air Quality Standards Compliance Report (AQSCR)

Air Quality Summary for 2005 and
Statistics for November/December 2005

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2005 Air Quality and Trends and Preliminary Analysis of 2006 Air Quality

In 2005, the maximum ozone and PM_{2.5} concentrations in the South Cast Air Basin (Basin) continued to exceed federal standards by wide margins. Based on the preliminary analysis of the 2006 air quality, air pollutants' concentrations in the years 2005 and 2006 were about the same and were consistent with the gradual downtrend observed in the region in recent years. The lower ozone concentrations in the Basin in the past few years are due to the weather conditions combined with the lower air pollutant emissions due to the District's and State's air pollution controls and regulations in the region.

Figure 1 shows the 3-year average of number of days exceeding the 1-hour state and 8-hour federal ozone standards in the Basin for the years 2000 to 2006. (Three-year averages have been used to minimize year-to-year variation due to changes in weather factors.) The 3-year average number of days exceeding the federal 8-hour and state 1-hour standards between the years of 1998-2000 and 2004-2006 were reduced by 20% and 12%, respectively.

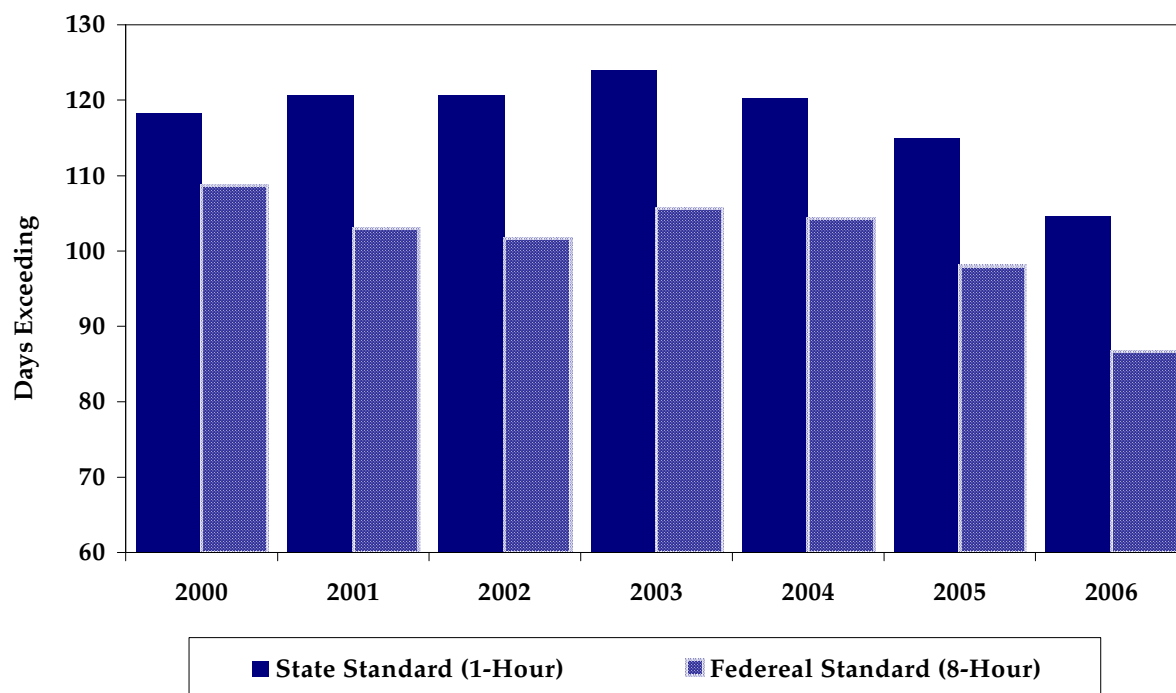


Figure 1
Ozone, 2000-2006
3-Year Average Number of Basin-Days Exceeding Standards
8-Hour Federal and 1-Hour State (as measured at the end of 3-year)



South Coast Air Quality Management District
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<http://www.aqmd.gov>

Maximum Pollutant Concentrations

Maximum 1-hour and 8-hour average ozone concentrations in 2005 (0.182 ppm and 0.145 ppm, both recorded in Central San Bernardino Mountains areas) were 146% and 171% of the federal standards, respectively. Maximum 24-hour average and annual average PM₁₀ concentrations (131 µg/m³ recorded in South Coastal Los Angeles County area and 52.0 µg/m³ recorded in the Metropolitan Riverside County area) were 87% and 103% of the federal 24-hour and annual average standards, respectively. Maximum 24-hour average and annual average PM_{2.5} concentrations (132.7 µg/m³ recorded in East San Gabriel Valley area and 21.0 µg/m³ recorded in Metropolitan Riverside County area) were 203% and 139% of the federal 24-hour and annual average standards, respectively.

Maximum 1-hour and 8-hour carbon monoxide concentrations recorded in the Basin have not exceeded the standards since 2003. The highest 8-hour average carbon monoxide concentration in 2005 (5.9 ppm in the South Central Los Angeles County area) was 62% of the federal carbon monoxide standard. The maximum annual average nitrogen dioxide concentration (0.0313 ppm recorded in the Northwest San Bernardino Valley area) was 59% of the federal standard. Concentrations of other pollutants remained well below the state and federal standards. (The 2005 annual air quality statistics for different locations in the Basin are summarized on the "2005 Air Quality" data card available at the SCAQMD Public Information Center or can be accessed via the Internet at <http://www.aqmd.gov/smog/AQSCR2005/aq05card.pdf>.)

Figure 2 shows the 2005 maximum pollutant concentrations in the Basin as percentages of the federal standards compared to other metropolitan areas in the U.S. The federal ozone, PM_{2.5} and PM₁₀ standards were exceeded in some of these large U.S. urban areas. Carbon monoxide concentrations did not exceed the federal standards in any of the nation's metropolitan areas in 2005.

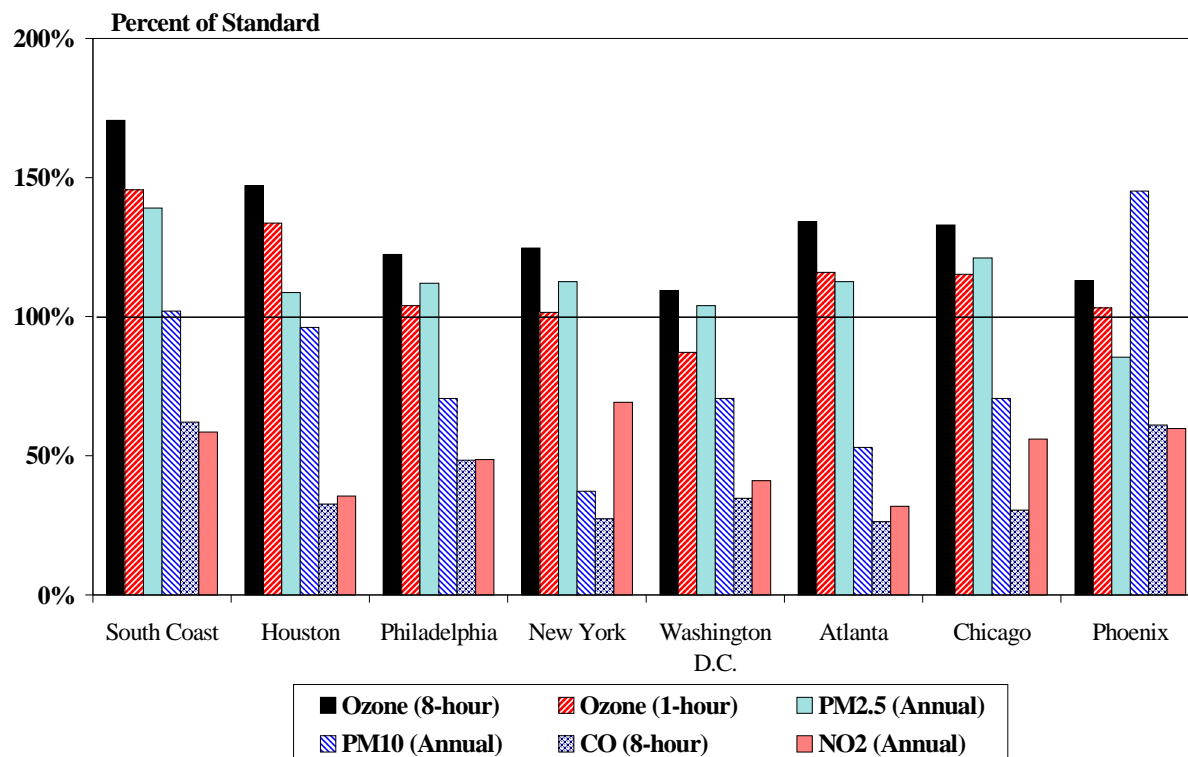


Figure 2
Maximum Pollutant Concentrations in 2005 as Percent of Federal Standards
South Coast Air Basin Compared to U.S. Metropolitan Areas

Ozone Air Quality Trends

Despite year-to-year variation in ozone concentration in the Basin, trend analysis in ozone concentration and exceedances of standards in different areas of the Basin show a continuing downward trend in duration of exceedances of federal 1-hour ozone standard at all individual sites for the period 1990-2006. Figure 3 shows 3-year average of the Basin-hours and the cumulative number of hours at all stations exceeding 1-hour federal ozone standard for the period 1990-2006 (same trend sites were used for the whole period). Even though the number of hours exceeding fluctuates throughout the period, overall, there has been a significant decrease in the number of exceedances hours for the period 1990-2006. The analysis shows a more substantial reduction for the weekday averages (Monday through Friday) at most locations (not shown). The three-year average number of hours exceeding the 1-hour federal standard in the Basin has dropped 86% between 1990-1992 and 2004-2006. The three-year average of station-hours has dropped 92% indicating a significantly lower population exposure to the unhealthy ozone levels in the recent years. The three-year average number of days exceeding the 1-hour federal standard in the Basin fell 77% for the same period.

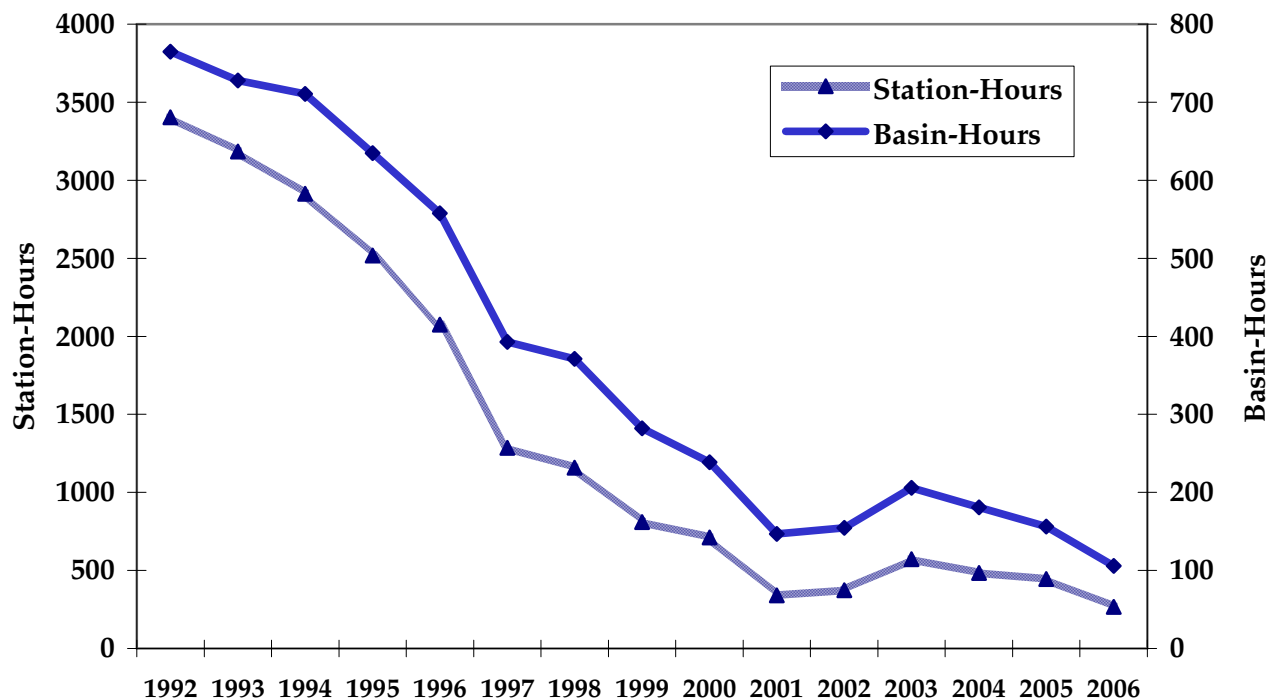


Figure 3
Ozone, 1990-2006
3-Year Average Number of Station-Hours and Basin-Hours Exceeding
1-Hour Federal Standard (as measured at the end of 3-year)

Comparison of Air Quality in Different Areas

Ozone (O₃)

Figure 3 shows the number of days on which 8-hour federal ozone standard was exceeded in different areas of the Basin in 2005. The 8-hour ozone standard was exceeded most frequently in the San Bernardino Mountains area in the north eastern portion of the Basin's inland areas. Frequent exceedances were also recorded in the Santa Clarita Valley area of Los Angeles County located in the northwestern valleys of the Basin. The coastal areas of Los Angeles and Orange Counties did not exceed the 8-hour federal standard. The previous short-term 1-hour standard (Figure 4) was also exceeded most frequently in the Basin's Central San Bernardino Mountains area. In 2005, the Basin exceeded the 8-hour average federal ozone standard more frequently than any other areas of the U.S. Of the 15 highest U.S. locations in terms of number of days over the 8-hour federal standard in 2005, 10 were located in the District.

Particulate Matter (PM_{2.5})

In 2005, the location with the highest maximum 24-hour average recorded in the U.S. was located in the Basin (East San Gabriel Valley). Also, 6 out of the 10 locations with the highest maximum 24-hour average PM_{2.5} concentrations in the nation were located in the Basin. Figure 5 shows the PM_{2.5} annual arithmetic mean concentrations for the year 2005 at locations in the Basin. The highest PM_{2.5} annual average concentrations were recorded in the Metropolitan Riverside County areas and the inland valley areas of San Bernardino County. Coachella Valley areas in the desert portion of the District recorded the lowest PM_{2.5} concentrations and did not exceed the PM_{2.5} state and federal standards.

Particulate Matter (PM₁₀)

Figure 6 shows the distribution of annual average PM₁₀ concentrations in different areas of the Basin for the year 2005. Like PM_{2.5}, the highest PM₁₀ annual average concentrations were recorded in the Metropolitan Riverside County areas and the inland valley areas of San Bernardino County. The annual average PM₁₀ federal standard was exceeded only in the Metropolitan Riverside County area. The much more stringent state standard, however, was exceeded at almost all locations monitored.

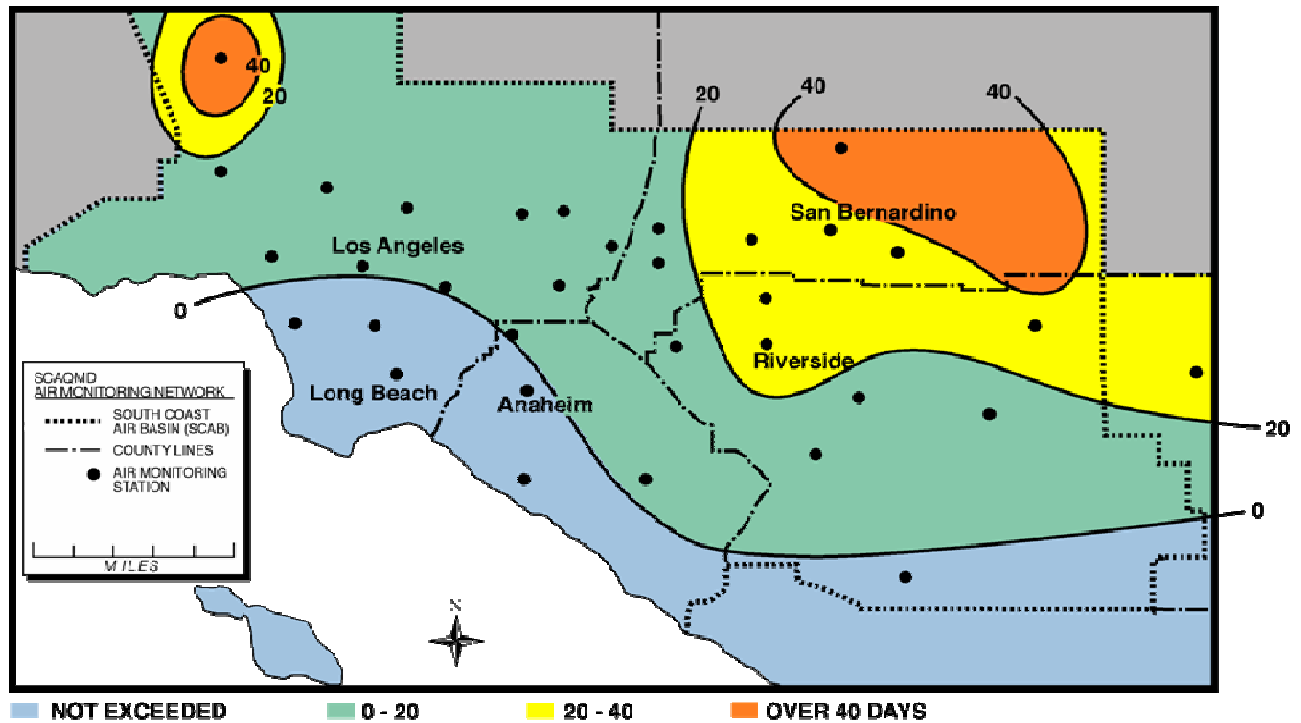


Figure 3
Ozone - 2005
Number of Days Exceeding 8-Hour Federal Standard

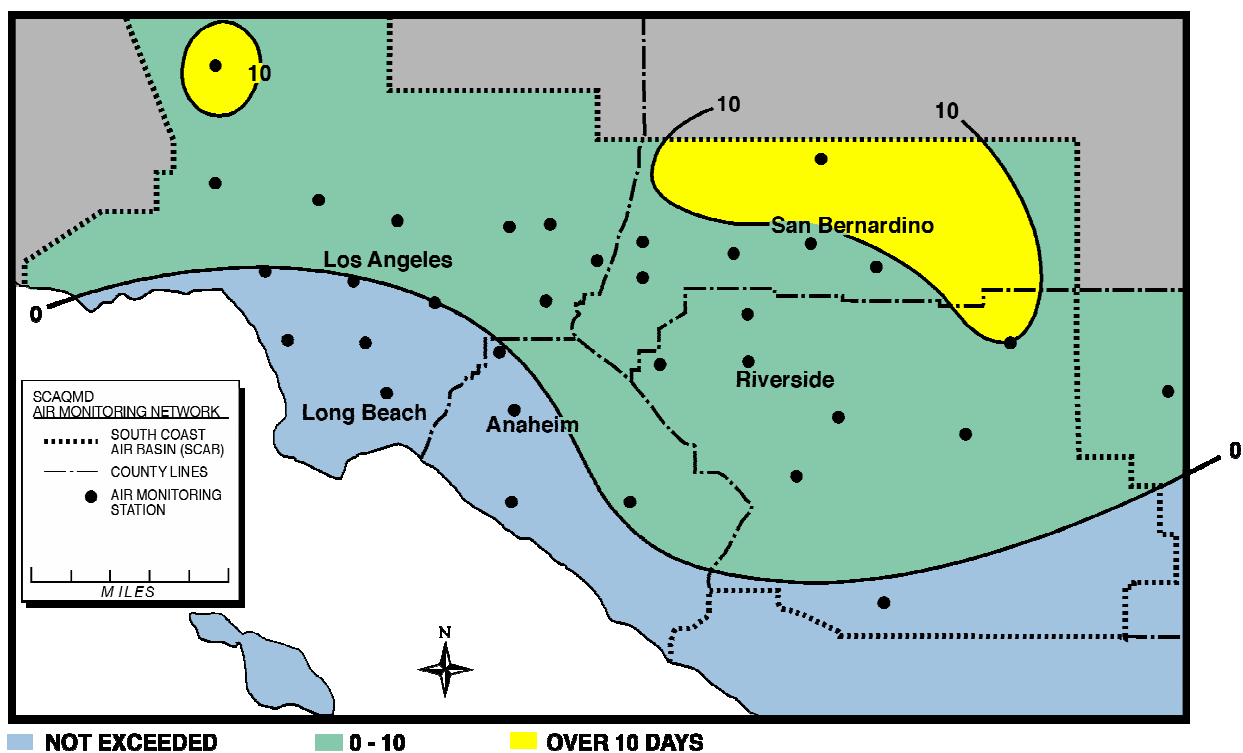


Figure 4
Ozone - 2005
Number of Days Exceeding 1-Hour Federal Standard

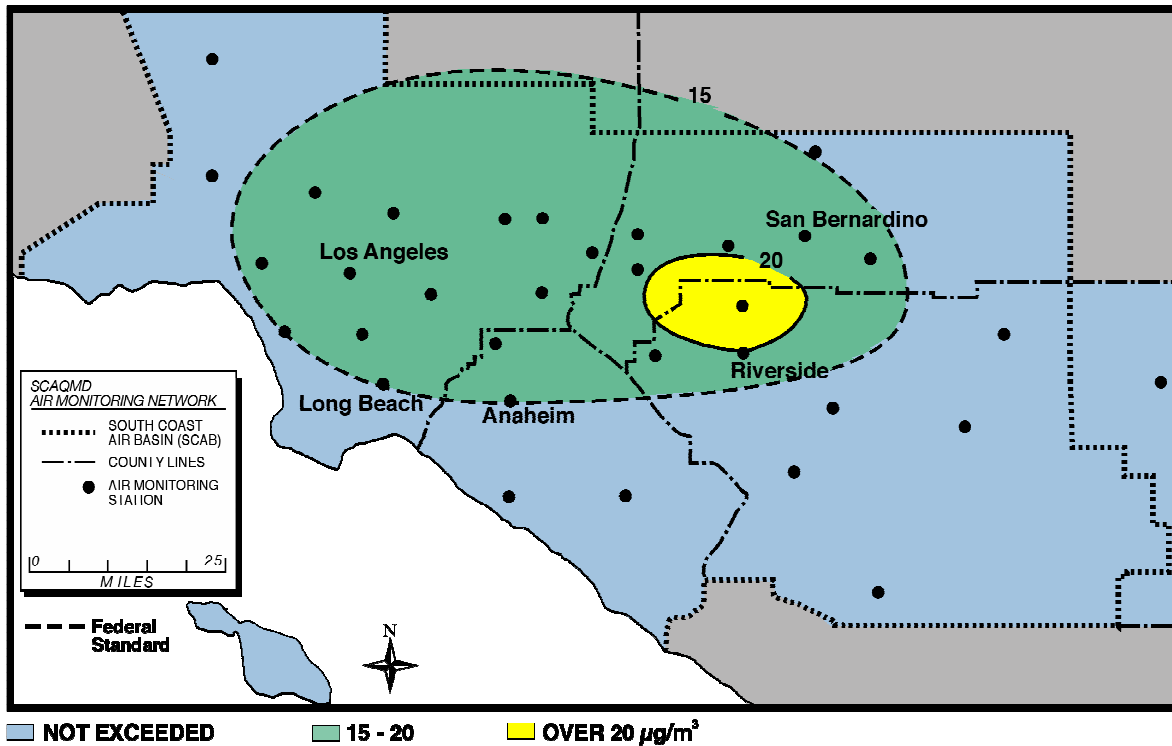


Figure 5
PM2.5 - 2005
Annual Arithmetic Mean, $\mu\text{g}/\text{m}^3$

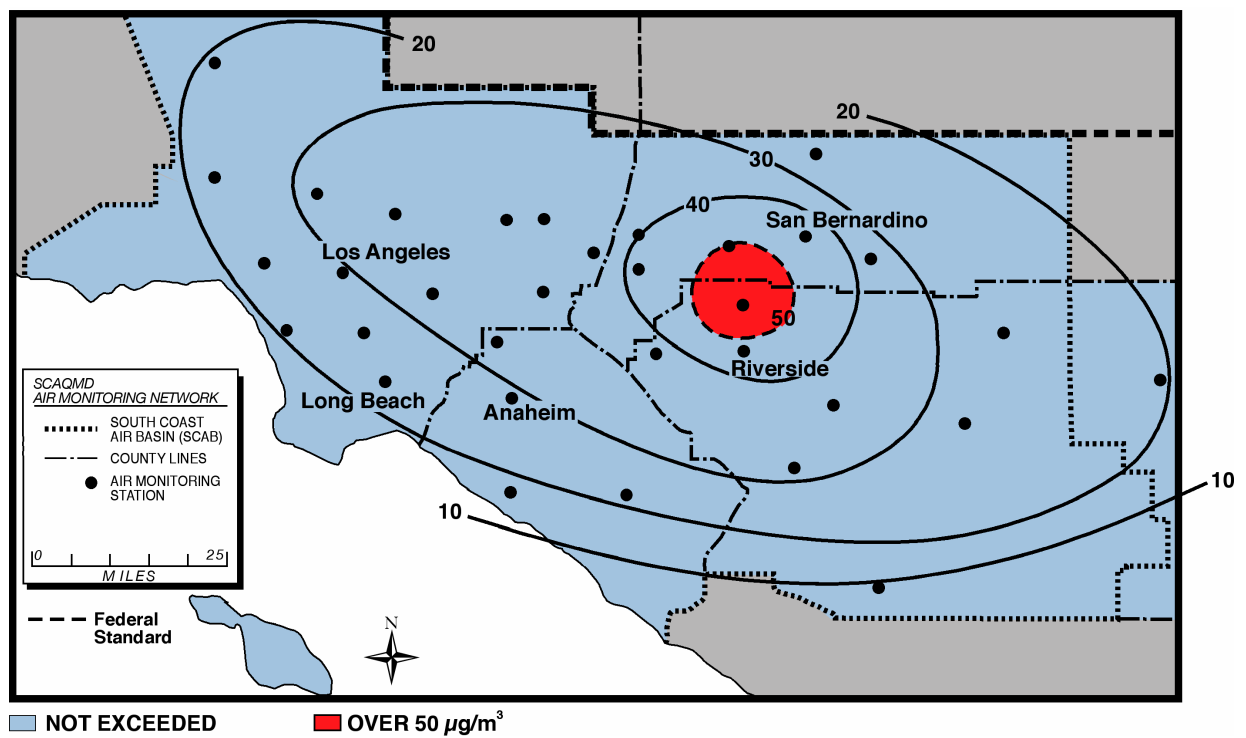


Figure 6
PM10 - 2005
Annual Arithmetic Mean, $\mu\text{g}/\text{m}^3$

This bimonthly publication satisfies the requirements for reporting on air quality in the South Coast Air Basin set by California legislation (Chapter 1301, Statutes of 1987; Health and Safety Code Section 40451(d)), and supplies similar information for the Coachella Valley area of the Salton Sea Air Basin served by the District.

Subscription request forms for the AQSCR may be obtained by calling Subscription Services at (909) 396-3720.

November and December 2005 Air Quality

Shown and summarized in the following tables are air quality statistics for the South Coast Air Basin and the desert area of Coachella Valley in the Salton Sea Air Basin for the months of November and December. Table 1 (below) summarizes the maximum concentrations recorded and location of the maximum during November-December 2005.

Figure 7 shows the location of the District's air monitoring stations in each source/receptor area. The number of days exceeding the state and federal standards and the maximum concentrations of the

pollutants in each source/receptor area for the months of November and December 2005 are summarized in Tables 2 and 3, respectively.

Current Revisions to Air Quality Standards

The 1-hour average federal ozone standard was revoked (replaced by the 8-hour average standard) effective June 15, 2005.

California Air Resources Board (ARB) established a new 8-hour average California ozone standard of 0.07 ppm effective May 17, 2006.

U.S. EPA has strengthened the level of the 24-hour PM_{2.5} standard to 35 µg/m³ effective December 17, 2006, and has revoked the annual PM₁₀ standard. The 24-hour PM₁₀ standard is retained.

On February 22, 2007, ARB approved an amendment to the NO₂ standard which lowers the 1-hour standard to 0.18 ppm and establishes a new annual standard of 0.030 ppm. The revisions are expected to become effective later in 2007.

**Table 1. Maximum Concentrations Reported in November/December 2005
Compared to the Ambient Air Quality Standards**

Pollutant Averaging Time	Criteria Pollutants' Air Quality Standards		Maximum Concentrations			
	State	Federal	ppm/ µg/m ³	% State Standard	% Federal Standard	Location
Ozone						
1-Hour	> 0.09 ppm	> 0.12 ppm	0.08	80%	64%	Saddleback Valley
8-Hour	> 0.07 ppm	> 0.08 ppm	0.060	80%	71%	Northwest Coastal LA County and Banning Airport
Carbon Monoxide						
8-Hour	> 9.0 ppm	> 9 ppm	5.50	60%	58%	South Central Los Angeles County
Nitrogen Dioxide						
1-Hour	> 0.25 ppm		0.13	50%		Central Los Angeles
Sulfur Dioxide						
1-Hour	> 0.25 ppm		0.04	15%		South Coastal LA County
24-Hour	> 0.04 ppm	> 0.14 ppm	0.009	22%	6%	South Coastal LA County
Particulate (PM₁₀)						
24-Hour	> 50 µg/m ³	> 150 µg/m ³	98	192%	65%	Metropolitan Riverside County
Particulate (PM_{2.5})						
24-Hour		> 65 µg/m ³	61.1		93%	East San Gabriel Valley
Sulfates						
24-Hour	>= 25 µg/m ³		8.3	33%		South Coastal LA County
Lead*						
30-Day	>= 1.5 µg/m ³		0.03	2%		South Central LA County
30-Day*			0.10	7%		South San Gabriel Valley

*Higher lead concentrations were recorded at special monitoring sites in the immediate vicinity of major lead sources.

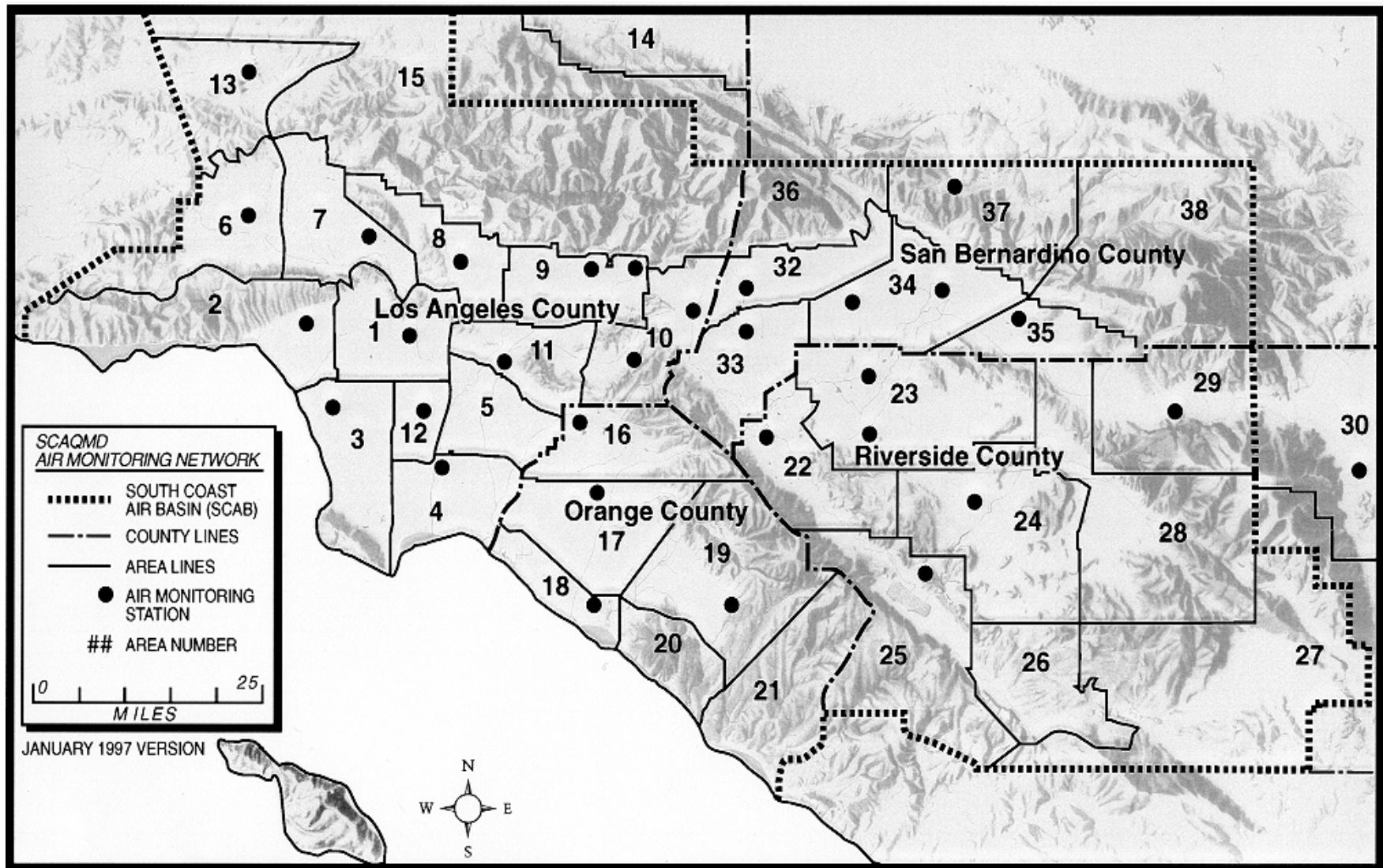


Figure 7
South Coast Air Basin and Adjoining Areas of Salton Sea and Mojave Desert
Air Basins and Monitoring Stations

Table 2
November 2005
Exceedances of Standards and Maximum Concentrations

No. Location		
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** Salton Sea Air Basin.

Table 2 (continued)
November 2005
Exceedances of Standards and Maximum Concentrations

No. Location Stn. No.			PM10				Lead***		Sulfate		PM2.5		
			No. (%) Days Exceeding		Number Days Sampled	Max 24-hour Average µg/m3	Number Days Sampled	Monthly Average µg/m3	Number Days Sampled	Max 24-hour Average µg/m3	Number Days Exceeding		Max 24-hour Average µg/m3
			State Standard	Federal Standard							Federal Standard		
LOS ANGELES COUNTY													
1	Central LA	87	2(40%)	0(0%)	5	68	5	0.01	5	5.5	30	0	54.7
2	Northwest Coastal LA County	91							3	5.1			
3	Southwest Coastal LA County	820											
4	South Coastal LA County 1	72	3(60%)	0(0%)	5	66	5	0.01	5	8.3	24	0	48.0
4	South Coastal LA County 2	77											
6	West San Fernando Valley	74									5	0	35.8
7	East San Fernando Valley	69	1(20%)	0(0%)	5	77					3	0	53.5
8	West San Gabriel Valley	88							4	5.1	10	0	46.0
9	East San Gabriel Valley 1	60	0(0%)	0(0%)	2	41			3	4.9	13	0	61.1
9	East San Gabriel Valley 2	591											
10	Pomona/Walnut Valley	75											
11	South San Gabriel Valley	85					5	0.02	5	6.4			
12	South Central LA County	84					5	0.03	5	6.3	10	0	54.6
13	Santa Clarita Valley	90	0(0%)	0(0%)	5	27							
ORANGE COUNTY													
16	North Orange County	3177											
17	Central Orange County	3176	1(20%)	0(0%)	5	53					22	0	40.9
18	North Coastal Orange County	3195											
19	Saddleback Valley	3812	0(0%)	0(0%)	5	31					8	0	21.5
RIVERSIDE COUNTY													
22	Norco/Corona	4155	2(50%)	0(0%)	4	79							
23	Metropolitan Riverside County 1	4144	6(60%)	0(0%)	10	98	5	0.02	5	4.6	27	0	58.8
23	Metropolitan Riverside County 2	4146					5	0.01	5	3.5	10	0	49.1
24	Perris Valley	4149	2(50%)	0(0%)	4	69							
25	Lake Elsinore	4158											
29	Banning Airport	4164	0(0%)	0(0%)	5	27							
30	Coachella Valley 1**	4137	0(0%)	0(0%)	5	26					8	0	8.3
30	Coachella Valley 2**	4157	1(13%)	0(0%)	8	54					7	0	14.8
SAN BERNARDINO COUNTY													
32	Northwest San Bernardino Valley	5175					4	0.01	4	3.1			
33	Southwest San Bernardino Valley	5817	3(60%)	0(0%)	5	72					9	0	58.4
34	Central San Bernardino Valley 1	5197	4(80%)	0(0%)	5	86			5	4.4	7	0	48.4
34	Central San Bernardino Valley 2	5203	2(50%)	0(0%)	4	60	4	0.01	4	2.3	10	0	45.3
35	East San Bernardino Valley	5204	0(0%)	0(0%)	4	37							
37	Central San Bernardino Mountain	5181	0(0%)	0(0%)	4	41							
38	Big Bear Lake	5818									5	0	37.2
District maximum			6	0		98		0.03		8.3		0	61.1

** Salton Sea Air Basin

***Special monitoring of lead near stationary sources was carried out in November 2005 and the maximum monthly average was 0.07 µg/m³ recorded in Central Los Angeles.

Table 3
December 2005
Exceedances of Standards and Maximum Concentrations

No. Location			Stn. No.	Ozone					Carbon Monoxide				Nitrogen Dioxide		Sulfur Dioxide		
				No. Days Exceeding					Days Exceeding				Days Exceeding State Std	Max 1-hour ppm	Max 24-hour ppm	Max 1-hour ppm	
				State Standard 1-hour	8-hour	Health Advisory	Federal Standard 1-hour	8-hour	Max 1-hour ppm	Max 8-hour ppm	State Std 8-hr/1-hr	Federal Std 8hr/1-hr					Max 8-hour ppm
LOS ANGELES COUNTY																	
1	Central LA	87	0		0	0	0	0.04	0.028	0/0	0/0	2.75	3	0	0.08	0.003	0.01
2	Northwest Coastal LA County	91	0		0	0	0	0.04	0.038	0/0	0/0	2.25	3	0	0.06		
3	Southwest Coastal LA County	820															
4	South Coastal LA County 1	72	0		0	0	0	0.03	0.027	0/0	0/0	2.57	4	0	0.08	0.009	0.04
4	South Coastal LA County 2	77															
6	West San Fernando Valley	74	0		0	0	0	0.04	0.040	0/0	0/0	3.63	4	0	0.08	0.007	0.01
7	East San Fernando Valley	69	0		0	0	0	0.04	0.032	0/0	0/0	3.14	4	0	0.09		
8	West San Gabriel Valley	88	0		0	0	0	0.04	0.032	0/0	0/0	2.63	4	0	0.07		
9	East San Gabriel Valley 1	60	0		0	0	0	0.04	0.032	0/0	0/0	1.57	2	0	0.09		
9	East San Gabriel Valley 2	591	0		0	0	0	0.04	0.032	0/0	0/0	1.38	2	0	0.08		
10	Pomona/Walnut Valley	75	0		0	0	0	0.04	0.027	0/0	0/0	2.5	3	0	0.08		
11	South San Gabriel Valley	85															
12	South Central LA County	84	0		0	0	0	0.03	0.020	0/0	0/0	4.57	7	0	0.08		
13	Santa Clarita Valley	90	0		0	0	0	0.05	0.040	0/0	0/0	1.14	2	0	0.09		
ORANGE COUNTY																	
16	North Orange County	3177	0		0	0	0	0.03	0.025	0/0	0/0	3.14	7	0	0.08	0.005	0.01
17	Central Orange County	3176	0		0	0	0	0.05	0.038	0/0	0/0	3.14	4	0	0.07		
18	North Coastal Orange County	3195	0		0	0	0	0.04	0.040	0/0	0/0	3.14	5	0	0.08		
19	Saddleback Valley	3812	0		0	0	0	0.05	0.041	0/0	0/0	1.50	2				
RIVERSIDE COUNTY																	
22	Norco/Corona	4155															
23	Metropolitan Riverside County 1	4144	0		0	0	0	0.05	0.040	0/0	0/0	2.57	3	0	0.07	0.002	0.02
23	Metropolitan Riverside County 2	4146								0/0	0/0	2.38	3				
24	Perris Valley	4149	0		0	0	0	0.04	0.030								
25	Lake Elsinore	4158	0		0	0	0	0.05	0.045	0/0	0/0	1.00	1	0	0.05		
29	Banning Airport	4164	0		0	0	0	0.06	0.050					0	0.06		
30	Coachella Valley 1**	4137	0		0	0	0	0.04	0.040	0/0	0/0	1.00	1	0	0.06		
30	Coachella Valley 2**	4157	0		0	0	0	0.04	0.038								
SANBERNARDINO COUNTY																	
32	Northwest San Bernardino Valley	5175	0		0	0	0	0.04	0.036	0/0	0/0	1.88	2	0	0.09	0.001	0.00
33	Southwest San Bernardino Valley	5817															
34	Central San Bernardino Valley 1	5197	0		0	0	0	0.04	0.040	0/0	0/0	2.00	3	0	0.07		
34	Central San Bernardino Valley 2	5203	0		0	0	0	0.04	0.040	0/0	0/0	2.38	3	0	0.06		
35	East San Bernardino Valley	5204	0		0	0	0	0.04	0.036								
37	Central San Bernardino Mountain	5181	0		0	0	0	0.05	0.047								
38	Big Bear Lake	5818															
District maximum			0		0	0	0	0.06	0.050	0/0	0/0	4.57	7	0	0.09	0.009	0.04

** Salton Sea Air Basin.

Table 3 (continued)
December 2005
Exceedances of Standards and Maximum Concentrations

No. Location Stn. No.			PM10				Lead***		Sulfate		PM2.5		
			No. (%) Days Exceeding		Number Days Sampled	Max 24-hour Average µg/m3	Number Days Sampled	Monthly Average µg/m3	Number Days Sampled	Max 24-hour Average µg/m3	Number Days Exceeding		Max 24-hour Average µg/m3
			State Standard	Federal Standard							Federal Standard		
LOS ANGELES COUNTY													
1	Central LA	87	0(0%)	0(0%)	5	45	5	0.02	5	5.0	30	0	47.7
2	Northwest Coastal LA County	91							5	3.8			
3	Southwest Coastal LA County	820											
4	South Coastal LA County 1	72	1(20%)	0(0%)	5	54	5	0.01	5	7.0	26	0	43.4
4	South Coastal LA County 2	77											
6	West San Fernando Valley	74									6	0	28.7
7	East San Fernando Valley	69	0(0%)	0(0%)	5	47					8	0	40.1
8	West San Gabriel Valley	88							5	2.5	10	0	31.4
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9	East San Gabriel Valley 2	591											
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19	Saddleback Valley	3812	0(0%)	0(0%)	5	32					10	0	31.4
RIVERSIDE COUNTY													
22	Norco/Corona	4155	0(0%)	0(0%)	5	47							
23	Metropolitan Riverside County 1	4144	7(64%)	0(0%)	11	91	5	0.02	5	4.1	25	0	44.9
23	Metropolitan Riverside County 2	4146					5	0.01	5	3.5	9	0	35.1
24	Perris Valley	4149	3(60%)	0(0%)	5	58							
25	Lake Elsinore	4158											
29	Banning Airport	4164	0(0%)	0(0%)	5	41							
30	Coachella Valley 1**	4137	0(0%)	0(0%)	5	34					10	0	25.0
30	Coachella Valley 2**	4157	6(60%)	0(0%)	10	73					9	0	44.4
SAN BERNARDINO COUNTY													
32	Northwest San Bernardino Valley	5175					5	0.01	5	2.3			
33	Southwest San Bernardino Valley	5817	1(20%)	0(0%)	5	51					10	0	38.6
34	Central San Bernardino Valley 1	5197	3(60%)	0(0%)	5	65			5	3.7	9	0	39.3
34	Central San Bernardino Valley 2	5203	2(40%)	0(0%)	5	55	5	0.01	5	3.1	10	0	32.2
35	East San Bernardino Valley	5204	0(0%)	0(0%)	5	43							
37	Central San Bernardino Mountain	5181	0(0%)	0(0%)	4	34							
38	Big Bear Lake	5818									5	0	32.8
District maximum			7	0		91		0.02		7.0		0	53.4

** Salton Sea Air Basin

***Special monitoring of lead near stationary sources was carried out in December 2005 and the maximum monthly average was 0.10 µg/m³ recorded in South San Gabriel Valley.